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## FOREWORD

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NEWS BRIEFS ON SCIENCE AND TECHNOLOGY  
IN COMMUNIST CHINA

[The following are translations of selected  
articles from various issues of the Chinese  
Communist press.]

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SHANGHAI AGROTECHNICIANS PROMOTE  
INSECT-KILLING TECHNIQUE

[Following is a translation of a news item  
in Kuang-ming Jih-pao, 23 November 1960,  
page 1.]

There is a specie of golden wasp (chin-hsiao feng) that is fond of preying on the *Pectinophora gossypiella* Saund. Using the golden wasp to eliminate the *Pectinophora gossypiella* Saund. is an excellent insect-control technique for cotton crops. At present, Shanghai agricultural scientific and technical personnel are about to promote this excellent method of insect against insect. Because the *Pectinophora gossypiella* Saund. tend to collect in storage warehouses to pass the winter, these storage areas have been selected as basic units for conducting control activities. In addition, technical assistance is being provided to various hsien and plant protection personnel in the large-volume breeding of the golden wasp. The good implementation of this work will mean the elimination of all *Pectinophora gossypiella* Saund. from storage areas even before pupation next year.

10,122  
COS: 1336-S/1

TAP GROUND WATER TO IRRIGATE FIELDS

[Following is a translation of an article in  
Kuang-ming Jih-pao, 23 November 1960, page 2.]

The glorious responsibility of geological work for the benefit of agriculture is to detect and develop underground waters for irrigation. Departments of geological detection in Hopeh, Honan, Shantung, Shensi, Shansi, Inner Mongolia and Kansu have succeeded in detecting and obtaining

underground waters by drilling wells. The work is now being further strengthened.

There are many advantages in using underground waters for irrigation: local wells can be drilled and used; therefore this is more economical and convenient. The quality of the water obtained is good and its supply is steady, especially that from deep ground. There is very little effect on the water supply even during years of minimum annual rainfall. In areas heavy in alkaline salts underground waters can act as a dilution agent. The use of underground waters for the irrigation of areas already irrigated by surface water not only can increase the area of irrigation, but also can prevent the occurrence and extension of alkalization.

Underground water supply is abundant in the northern part of China. According to the results of years of general hydrogeological detection, it has been found that there are abundant sources of underground water in the North China plains, Kuan-chung plains, Fen-ho Plains, and Ho-t'ao Plains. Underground water supply found in almost every basin and grassland of Inner Mongolia can be developed and utilized. In many places, there are scattered areas of natural self-flowing waters.

It is necessary to master thoroughly the distribution and action of underground waters in order to develop and use underground water sources economically and reasonably. In 1960 the work of detecting underground water has been greatly emphasized and increased in Hopeh, Shantung, Shansi, Shensi, Inner Mongolia and Kansu. A large group of hydrogeologists have been sent to various provinces to collect and use suggestions of the masses by visiting old farmers, leaders, and technicians. Together with their own findings, they have compiled various hydrogeological maps which serve as guidance for well-drilling for irrigation in various provinces. These maps include the provinces of Shansi, Hopeh, Honan, and Shantung. The specifications of these maps are easy to draw, easy to understand and closely related to production. They serve as guides to further detection and development of underground water.

Workers in various places have followed successfully and closely the principle of associating detection with drilling. On the one hand, they have increased the speed of underground water development by the application of information obtained from the well-drilling crews, and on the other hand by collecting more information by using exploratory drilling. Many workers while undertaking this project of detecting and drilling have initiated technological innovations and reforms. They have invented quantities of drilling equipment and have

substituted instruments of native and foreign combination to increase incessantly the efficiency of production. According to present geology statistics, more than 1800 wells have been completed in just Hopeh, Honan, Shantung, Shansi, Shensi, Inner Mongolia and Kansu as well as Peiping. Among these, many are natural springs or "blessing wells," as the people call them. People have happily praised the Party and Chairman Mao: "The water pouring from the wells ensures bumper yields and fights the drought. Where natural springs have been discovered, increases in grain production have been many-fold. Thanks to the Party and Chairman Mao, a long-lived prosperity has been assured for our children and grand-children."

Citizens in Hopeh set up a monument to express their gratitude to the Party when a natural well was completed by a hydrogeology team of the Hopeh Bureau of Geology. The same bureau completed a natural well in the stables of a commune in Wei Hsien. This well could irrigate a thousand mou of land. After tasting the water, a ninety-year-old elder said, "This is the water of blessing brought by Chairman Mao." When the hydrogeological team of the Bureau of Geology in Honan completed a natural well, people praised it by saying: "There is no need for machine nor cow. Clear water flows all year round. Our brother workers are capable of anything; there is no worry about the harvest."

The major cotton production areas are in the northern provinces of China, but because of the dry climate, scarce and unevenly distributed rainfall, it is very necessary to drill wells to obtain underground waters to meet the needs of agriculture. In their long struggle against drought, farmers in China have acquired the experience of detecting and extracting underground water. The northern provinces of China were among the earliest to develop and use underground waters. As early as the Chou Dynasty, wells existed. After the liberation, especially during the great leap forward, many sources of underground water have been developed. They have exacted profound effects in the struggle against drought in the recent two years.

In many places, as a result of the good use of underground water, food and cotton are still in good harvest, even under very dry conditions. For instance, the Ho-tung Production Brigade of the Wei-hsien Nuan-ch'uan Commune in Hopeh has increased food productions by more than two-fold by the drilling and use of two underground water wells in converting 800 mou of dry terrace into irrigated land. Cotton production has increased by 30% with the use of underground water for irrigation by the Yang-ts'un Production Brigade of the Yun-ch'eng Hsien Lung-chu Commune in Shansi. Members of the commune

have said, "In the past, when it was dry, we could not do anything but pray for rain. It not only was a waste of time but also decreased production. Now, by using hydrogeological methods, we can have water anywhere. There is no need for so-called gods."

Recently, the Ministry of Geology held a conference with representatives from Hopeh, Honan, Shantung, Shansi, Shensi, Inner Mongolia, Kansu, and Peiping to summarize experiences in the detection and development of underground water to support agriculture and the struggle against drought. How to detect and use underground water more efficiently and economically in the days to come so that it can be of service to both industry and agriculture was also discussed. At present in the fore-mentioned provinces, the various concerned departments are actively engaged in setting up programs for the further detection and development of underground water.



## METEOROLOGICAL DEPARTMENTS AID AGRICULTURE

[Following is a translation of an article in  
Kuang-ming Jih-pao, 4 December 1960, page 2.]

### Kwangtung Meteorological Departments Help Agricultural Work

Because of the extensive agricultural production drive, meteorological departments of Kwangtung Province have adopted the policy of "promote productivity by laying stress on agriculture."

The climate in the Kwangtung Province has been rather unusual this year. Drought, wind, and frost have occurred frequently. Meteorological departments of various levels with the Provincial Meteorological Observatory as the center have been acting as the advanced guard in the struggle against natural catastrophe. Meteorological work has been strengthened and the losses of agricultural crops caused by natural calamity have been greatly eliminated.

Typhoons from the South Seas struck Kwangtung earlier, more frequently and more strongly this year than usual. However, due to timely and accurate forecasts of the various meteorological departments, precautionary measures were taken to reduce damages. In June, a severe typhoon hit Pao-an Hsien, yet the forecast was made three days ahead by the Hsien Meteorological Station and precautionary measures were taken by the Party Committee. As a result, not a single cattle was lost in that incident; agricultural loss was also greatly curtailed. Since autumn, meteorological departments have forecasted an earlier occurrence of cold spells in the approaching winter, and have urged all localities to take precautionary steps and to effect winter cultivation at an earlier period.

To constantly make timely, accurate and specific meteorological reports is another contribution of Kwangtung meteorological departments to the strengthening of agricultural production. Specific meteorological reports include: right time for sowing, meteorological conditions during growth and harvest, frost periods and harmful insects in connection with climate. Prior to and after the autumn harvest, the Provincial Meteorological Observatory will make the first specific

report on the meteorological conditions during the autumn harvest and winter sowing so that labor power can be mobilized for the autumn harvest and winter sowing.

Meteorological workers in Kwangtung Province have also joined production brigades, visited peoples' communes and conducted various surveys. Attempts have been made to solve technical agricultural problems closely related to meteorology. Many local meteorological workers have studied the relationship between field temperatures and the varying densities of close-planted paddy rice under different meteorological conditions and have furnished valuable knowledge in this matter. In the past, sweet potatoe cultivation in North Kwangtung was considered impracticable. But when the Party Committee was promoting the campaign to expand crop areas in the winter, meteorological departments were quick to point out that high yields in the cultivation of sweet potatoes were possible in North Kwangtung from the meteorological point of view. Also, precautionary measures were proposed to fight frost. These measures played a significant role in winter production.

Furthermore, conditions for raising pigs were also under the observation and experimentation of different local meteorological departments. Based on the results of research, inoculation and breeding requirements have been found in accordance with the meteorological conditions. By the use of meteorological knowledge, the Huo-ch'ien Hog Farm of the Wen-ch'ang Hsien Wen-chiao Peoples' Commune on Hainan Island, arranged a favorable environment for raising pigs. Even in June when it was humid and rainy, hogs were raised in accordance with meteorological conditions. After heavy rains, none of the newly born pigs contracted any disease.

#### Successful Livestock-Raising At T'ien-Lung-Shan Farm

The Hsin-hua Hsien Meteorological Station and Meteorological Society in Hunan are serving production by their meteorological work. They established a livestock meteorological center in February 1959 and meteorological outposts in ten agricultural operational areas and pig-raising farms. Assisted by the local people, they have rendered many meteorological services aimed at extensive pig-raising.

The T'ien-lung-shan Farm in Hsin-hua Hsien is located at the edge of Hsueh-fung Shan, with an altitude of 1100 meters above sea level. The climate there is changeable. Frequent recurrence of unfavorable weather has created difficulties in pig-raising. Therefore, some of the workers have

been led by the misconception that pig-raising in high altitude regions is impossible.

After the establishment of the meteorological station at T'ien-lung-shan Farm, weather forecasts and observations have been conducted with full attention. Meteorological work and pig-raising management have been coordinated. During the past year, based upon observation and survey, the temperature and humidity of the larger pig-sties, cattle pens and chicken coops have been recorded daily; such recordings helped to show the various conditions of growth, birth, breeding and grazing of the stock.

Because of the reliable meteorological knowledge, livestock-raising has been carried out in an active manner. For instance, in January this year, according to a forecast that a severe cold spell would be forthcoming in this area, precautionary measures against the cold climate were taken. The result was no damage was done to the animals, totaling more than 6,000 in number, including both the feeble and the pregnant. There were some Yorkshire stud hogs that had suffered from rheumatism owing to the poor condition of the pig-sties, including high humidity, low temperature, and lack of sunshine. Medical treatment of rheumatism proved ineffective. However, shortly after the following measures were taken, most of the rheumatism-stricken pigs were cured: accommodating pigs in sties exposed to sunshine, adjusting temperature of the sty according to the changes of weather, providing pigs with better food and with necessary medical care. The meteorological station workers initiated temperature and humidity suitable to pig propagation, breeding and feeding and, consequently, some formerly barren sows were able to conceive. In March this year, the mortality rate of suckling pigs throughout the farm was 3%. The total number of pigs has increased 22 times over 1953 and has increased 8.4% over the same period of 1959. Other domestic animals and fowls have also increased by 10-40% over the same period of 1959.

These facts have corrected the old misconception that pig-raising at high altitudes was not practicable. At present, the livestock workers in T'ien-lung-shan, besides performing their regular work, also play an active role in conducting meteorological observation. They believe that in spite of the complicated changes of climate in this area, livestock-raising is bound to succeed if meteorological knowledge is applied.

10,416  
CSO: 1395-S/8

## A TIBETAN BROTHER BROUGHT BACK TO LIFE

Following is the translation of an article in Kuang-Ming Jih-pao Peiping, 5 December 1960, page 2.7

The story of the saving of a Tibetan from death by one of Chairman Mao's "Men-pa" (doctor) is spreading throughout the valley of the Nu River in the Eastern Plateau of Tibet. When the Tibetans heard the story, they were deeply moved, and thanked the Communist Party, Chairman Mao, and the People's Liberation Army.

In the first part of June of this year, Pu-ch'ia, age 47, of Ch'u-ch'ih Hsiang, Lo-lung Hsien, Ch'ang-tu Special District, contracted a serious disease. At first he suffered from stomach ache; then the ache spread from one part of the abdomen through the entire abdomen, and was followed by violent vomiting. At last, he vomited seven tape-worms. He suffered heavy breathing, a weak pulse, and unconsciousness, and he could not eat nor go to stool for nine days. His abdomen swelled like a drum, and he was near death. No one in the village could believe he would survive.

When this news reached the medical station of the People's Liberation Army in Cha-t'o, they took this hopeless patient to the station on 9 June. The surgeon, the medical doctor, the officer in charge of the local troops, and the vice-magistrate of Lo-lung Hsien all took part in helping with this emergency case. From the symptoms, they found out that the patient had an intestinal obstruction, strangulation with gangrenous holes, dehydration toxemia and serious peritonitis. As shock could have occurred to the patient at any moment, an operation had to be started at once.

To perform such a complex operation in a medical station lacking in skill and equipment was a difficult task. But, for the sake of saving a life, they, with the good traditional spirit of the People's Liberation Army and the courage to overcome difficulties, used a wooden door instead of a surgical table, common salt solution for physiological blime, injectors for suckers, and eye-medication bottles for liquid droppers.

The serious struggle began. After opening the abdomen, a great deal of thick yellow exudate oozed out, the intestines swelled like balloons, the walls of the intestine became purple and covered with thick moss, a loop twisted at an angle of 180° at the lower part of the small intestine, near which there were holes in the intestine wall through which dejecta and gas leaked with offensive smell. More serious was the fact

that the patient's blood pressure dropped suddenly, so that the doctors on the one hand, had to act promptly and on the other hand, corrected the loops of the intestine, mended the holes and cleansed the waste from the abdomen. After the emergency operation and the mending, the doctors could not put the intestines back into the abdomen because of the swollen intestines. The doctors held a "chu-ko-liang's meeting" (wise men meeting) over the surgery bed, and they decided to cut a hole in the wall of the intestine to get rid of some gas and liquid before putting the intestine back into the abdomen. As they proceeded, unexpectedly, the patient stopped breathing while they were sewing up the cut. After two minutes of emergency treatment, the patient breathed again.

After one hour and forty minutes' struggle, the operation was completed, but it was only a part of the struggle. Following this, the patient showed serious signs of dehydrating. The doctors had already used up dextroso c.p. for injection during the operation, and the medical station was short of medicine for the patient, particularly the medicine used to correct the potassium and sodium contents in the patient's body. The medical station sent out two emergency telegrams to the health unit, 70 li away, asking for help. Unfortunately, this unit was also short of these medicines. After hearing the news, the responsible comrade of the Party Committee at the Army Post went to borrow the necessary medicines from a nearby hospital which gave him all the medicines he wanted generously. In addition, the army post sent six soldiers to deliver these medicines to the medical station. The soldiers climbed high mountains and over cliffs in the storm and finished their 70 li run in 4 hours.

When the medicines arrived, it was found that the patient could not swallow, so the doctors at the medical station took the risk of injecting them into the intestine, and this treatment had a good effect on dehydrating. Although the preliminary problem was solved, the patient lacked protein so that he had to have blood transfusions or plasma transfusions. The doctors did not know the patient's blood type, and they had no plasma and standard serum. Doctor Liu Pen-shu solved the problem of transfusion for the patient by testing his own blood and that of the patient and found out the patient's blood type and standard serum. When they heard the news of "saving a Tibetan compatriot's life by transfusion" the soldiers in that locality and workers went to the medical station to have their blood transfused, for they thought that it was a glorious deed to save a Tibetan brother by transfusion.

Blood toxemia, degeneration of the kidneys, pneumonia, etc., could occur at any moment to this extremely weak patient. Therefore, the doctors took every step to prevent their occurrence, and under their careful treatment, Pu-chia was rescued from the brim of death.

While Pu-chi'ia was in the convalescent stage, the commander at the army post gave him powder milk, the cook in the medical station based on the Tibetan customs, gave him strong salted tea, vegetable juice and sour milk. In order that his spouse could look after him more attentively the local People's Government gave her food. Furthermore,

the labor unit of Ch'u-ch'ih Hsiang helped her family to take care of the farm. After 40 days Pu-ch'ia recovered. He told the staff members of the medical station of his past experience. Under the previous Tibetan government, when his mother fell sick, all he could do was to go from place to place praying for remedy. For all these he sold all his 21 sheep and yet his mother died. Because of this, he ran into great debts, from which, for many years he could not free himself. He said, "This time, I fell sick and if Chairman Mao's doctors did not give me free medical treatment, I would have become the food for the eagles (Tibetan custom, called "heavenly burial," is to put the corpse of the dead out on the mountains and let the eagles eat it). I can never forget Chairman Mao and the Liberation Army's blessings. I will follow the Communist Party forever."

Now Pu-ch'ia is back to his village and is working happily on the plot of land that the Government of the People's Republic has just given him. The story of saving a Tibetan's life by Chairman Mao's 'Men-pa' is spreading widely among the Tibetans. In the recent three months, more than 1,800 people have come from afar to the medical station in Cha-T'ao for medical treatment.

## PREPARING FISH FRY AND FISH FOR PLANTING NEXT YEAR

[Following is a translation of an article in Ta-kung Pao, Peiping, 29 November 1960, page 2.]

In order to develop pisciculture it is necessary to have a sufficient number of fry and fish for planting. In the last few years, by operating on the principle, "obtain your material locally, rear locally and raise locally," our country's production of fish fry and fish for planting has compiled a fine record. Not only has there been a great increase in the numbers and varieties of fish fry and fish for planting caught in their natural surroundings, but more important there has been a great development of artificial incubation of fish fry. Artificial incubation of such fish as the bream [Hypophtha michthys moritrix], the tench, and the tsao-yü [literally, "grass fish"] has already been successful and has been expanded in 16 provinces. The artificial incubation of carp and "bastard carp" [Carassius auratus] has already spread throughout the whole country. But as a result of the expansion of the area of water used for fish cultivation during the last few years, the spread of dense planting and careful raising, and the insufficiently high rate of survival of fry caught in their natural surroundings, the fry and fish available for planting are far from being able to satisfy the demand. In several areas the speed of development of production from fish culture has been influenced by an insufficiency of fry and fish for planting. Therefore all possible means and methods must be employed to solve the problem of fish fry and fish for planting in order to guarantee a continued leap forward of production from fish culture and to still better satisfy the requirements of urban and village people for auxiliary foodstuffs.

There are two methods for solving the problem of fish fry and fish for planting. One is to catch the fish fry and the fish for planting from their natural surroundings in rivers and lakes. The other is artificial incubation. The method of taking fish from the rivers and lakes has great limitations imposed by the natural surroundings, and the size of the take is not constant; it is not easy to make production conform to planning. Artificial incubation, however, enables us to pursue production according to demand. Furthermore the cost is low, the labor utilized is small, and the rate of survival is high. At the Kuei-yang hatchery in Ch'i-tung Hsien, Hunan, an accounting was made of the production of fish fry and fish for planting.

To catch or buy fish fry from their natural surroundings in such places as Hsiang-t'an and ship them back to the hatcheries and raise them into fish for planting of the hsia-hua (夏花) variety, on the average 43 workdays were used and the cost was 240 yuan for 10,000 fish; after having been transported a long distance by automobile, train or boat, the rate of survival was only about four percent. With the use of artificial incubation, on the average 10,000 fish needed only four workdays, a cost of some 24 dollars, and the rate of survival reached 50 percent. This clearly shows that to obtain material locally, to be guided by the principle of fusing together the method of gathering from the natural habitat and the method of artificial incubation, and to propagate artificial incubation actively is the correct road to solving the problem of fish fry and fish for planting and quickly and economically developing their production. If artificial incubation is rapidly spread, then the present conditions of an insufficient supply of fish fry and fish for planting can be quickly changed and the cost can be lowered; in particular a large scale economy can be made in the use of transportation and labor power, and support can be given to pursuing agriculture and the production of foodstuffs in a big way. Judging from conditions in various areas the present technical problem of artificial incubation of fish fry is comparatively easy to solve. The principal difficulty is an insufficiency of parent fish, and in order to progress a step next year in expanding production from fish culture the number of parent fish needed will be still greater. How can this problem be solved? We know that fish require a definite period of time and definite conditions in order to mature. Our country's several important kinds of fresh water fish such as the bream, the tench, the tsao-yu and the ch'ing-yü (青魚) in general take five to six years to mature in the delta of the Pearl River, six to seven years in the Yangtze River basin and somewhat longer in those areas from the Yellow River northward. Generally it takes three to four for carps to mature. Therefore the work of accumulating parent fish is a step which must be taken before other work connected with production from fish cultivation. A long range plan is needed; parent fish should be caught before actual need for them arises. Before us is the flourishing season for soft water fish production; it is the flourishing season for catching fish in natural bodies of water, and it is also the flourishing season for breeding fish. Various areas should unite in making the catch and should select parent fish in a planned and organized way. All the fish among those caught which can be parent fish must be saved; fish approaching maturity should also be selected and kept as the need dictates. To sum up, we want to succeed in selecting and keeping parent fish in sufficient numbers and of good quality in order to prepare well for next year's development of production from fish cultivation. At present in a small number of places thought is given only to supplying the market, and insufficient regard is given to the selection and saving of parent fish. Some fish which should have been selected and saved have not been; this should be corrected while there is still time.

After the parent fish have been selected, they must be conscien-



tiously cared for. The experience in taking good care of them over the past few years shows that it is important to build pools for the care and feeding of parent fish, to release them in sparse numbers, to raise them with care, and to protect them from illness and other harm. In this way it is possible to raise the rate of survival and the rate of breeding of the parent fish selected. Several areas in Kwangtung Province have put into effect the method of using special pools for the parent fish, of releasing them in sparse numbers and of feeding with care. Not only was their rate of survival raised, but they were able to spawn twice in one year. This sort of method of operation is worth advocating. We have now already begun the winter season, and it is all the more important quickly to strengthen our work in providing for the successful passage through the season. We must guarantee that two conditions are met: first, the water must be deep; second, the water must be moving. The reason for this is, if the water is deep, the lower level will be of a warm temperature, and the fish will not be frozen to death. If the water is moving, the amount of oxygen remaining in it after it is frozen over will be large, and the parent fish will not get to the point of lacking oxygen. Those areas which in the past have been comparatively careless in managing the raising of fish should study the experience of progressive areas and should contribute greater and more conscientious labor to lay a good foundation for next year's expansion of the artificial incubation of fry and struggle to obtain a rich catch of fresh water fish from a large area.

WUHAN MEDICAL UNIVERSITY WESTERN MEDICINE PHYSICIANS  
GAIN RESULTS IN STUDY OF CHINESE MEDICINE

[Following is a translation of a news item  
in Kuang-ming Jih-pao, Peiping, 29 January  
1961, page 2.]

The faculty of Wuhan University has implemented the policy of unity of Western and Chinese medical knowledge by organizing the physicians who practice Western medicine to learn Chinese medicine. The majority of the faculty has grasped the first steps of basic knowledge of Chinese medicine. At present, there have been 138 physicians and practitioners above instructor-level who, after brief post-graduate training, have systematically studied the four ancient medicinal books, including Chinese Medicinal Internal Theory and Theory of Colds. All practicing departments are manned with practitioners who are capable of applying Chinese medicinal treatments to cure general cases within their own departments. Many of the practitioners in the wards and the clinics are capable of applying Chinese medicinal treatments of spot cauterization, acupuncture, and ear needling. These methods of treatment are simple in application, quick in cure and are welcomed by the patients.

Wuhan Medical University, in organizing practitioners of Western medical science to practice Chinese medicinal treatments, has adopted the practice-and-study method or the brief post-graduate training course method. The various departments have established Chinese and Western cooperative wards. Physicians who have preliminarily completed the basic knowledge of Chinese medicine are joined by experienced Chinese medicinal practitioners in daily ward checks, preparation of case histories, and examination of patients. They have accelerated the diagnosis and prescription processes, improving both while so doing. As a result, treatment efficiency has been accelerated and the treatment time has been shortened. Some cases, which previously required operations, have been cured by taking Chinese medicines internally.

In implementing the policy of unity of Western medicine and Chinese medicine, the Party committee of the

university has strengthened ideological and political education. Hence, many of the Chinese and Western medicinal practitioners have shown their humbleness in studies. Many of the Western physicians acquired their knowledge from the experienced Chinese medicinal practitioners earnestly and tirelessly, while many of the Chinese medicinal practitioners have gained modern medical knowledge in their collaboration with Western physicians. Through this mutual development of Western medicine and Chinese medicine in the field of scientific research, the Wuhan Medical University has published some Chinese-Western synopses on the digestive system and respiratory system, and discussions on the subjects of surgical practice, osteology, and obstetrics. The publications have shown efficacious results in the lectures.

10,293  
CSO: 1532-S/1

# AGRICULTURAL ACADEMY RESEARCHER PASSES AWAY

[Following is a translation of a funeral notice in Kuang-ming Jih-pao, Peiping, 29 January 1961, page 4.]

Comrade Liu T'ai (刘泰), deputy researcher of the Crop Institute (作物所) of the Chinese Agricultural Science Academy, died of illness on 24 January 1961 at 10:20 p.m. A memorial service will be held on 31 January at 9 a.m. at the Chia-hsing Temple. Any friends wishing to send scrolls or wreaths please send directly to the temple.

Committee for the funeral of Comrade Liu T'ai are:

Ting Ying	丁穎	Ch'eng Chao-hsien	程照軒
Fang Ts'ui-nung	方悻农	Liu Chung-min	刘忠民
Lin Shih-ch'eng	林世成	Tsu Te-ming	祖德明
Yang Shih-min	楊世民	Yang Kuo-ching	楊国敬
Chin Shan-pao	金善宝	Ch'eng Shao-chiung	程紹週
Chuang Chiao-sheng	庄巧生	Li Ching-hsiung	李竟雄
Hsu Shu-hua	徐叔华	Hsu Kuan-jen	徐冠仁
Pao Men-kuei	鮑文奎	Tai Sung-en	戴松恩
Chu Tse-min	朱則民	Pu Mu-hua	卜慕华
Ch'en Shan-ming	陳善銘	Lin Shan	林山
Kao Hui-min	高惠民	Ts'ao Chen-pei	曹鎮北

HUNAN SUMMARIZES SCHISTOSOMIASIS PREVENTIVE WORK  
DURING WINTER PRODUCTION

The following is a translation of an article in Jen-min Jih-pao, Peiping, 23 January 1961, page 2.

Hunan Province is now closely summarizing winter production and adopting comprehensive measures in carrying out preventive work for schistosomiasis. Since last winter, particular attention has been paid to eliminating snails in out-of-the-way areas, including marshes where reeds grow, and swamps and harbors, in order to carry out snail elimination thoroughly.

Huang-kai-hu Farm in Lin-hsiang Hsien has summed up experiences in crops sown in winter, repairs of pond embankments, accumulation of manure as fertilizer, and fertilization, etc. Remnant snails along rivers, in ponds or pits, in the fields and along roads are to be repeatedly eliminated until living conditions for snails will no longer exist.

Simultaneous with snail elimination, authorities of various areas have consolidated the labor movement of commune members in production and have strengthened the collective as well as individual preventive work in labor. At present, the lake areas are in the busy fish-catching season in winter. Under the leadership of the Party, fishermen in a great many areas have positively improved and eliminated the old fish-catching tools that require the users to go into the water. Yang-lin-chai Farm, Hsiang-yang Hsien, has changed fish-catching in the water to fish-catching on the boat. A net operated by the wind and another one operated with two wheels by the feet have been invented. Another device called "shrimp-drag operated-on-board" has also been made. All these devices have enabled the fishermen to catch fish without getting into water.

With regard to the management of lavatories, some localities and some communes have introduced "the three-flight-trapezoid lavatories", and "enveloped manure reservoir". In addition, lime has been put into the manure to serve as insecticide as well as to better the manure as fertilizer. As for the management of the water sources, a great many localities have insisted on drinking boiled water, or installing "safety water taps" in order to avoid contracting diseases from water pollution.

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PORT ARTHUR AND DAIREN PROMULGATE THE "PLANT ONCE,  
HARVEST MANY TIMES" METHOD OF VEGETABLE CULTIVATION

[Following is a translation of a news item in Jen-min  
Jih-pao, Peiping, 25 January 1961, page 3.]

The Agricultural Research Institute of Port Arthur and Dairen, Liaoning Province, has gained outstanding results with the "plant once, harvest many times" method. Not only can the quantity of certain kinds of vegetable be increased, but a new way has been discovered. The "plant once, harvest many times" method uses leaf-peeling and leaf-cutting as substitutes for the old uprooting method of harvesting. From the roots, new leaves will continue to grow. This way, many harvests can be obtained by only planting once. Under this method of cultivation, the growth period can be shortened, and labor can be saved. Vegetables that have already passed the tests successfully are: "kan-lan" [a kind of Chinese green], spinach, celery, cabbage, rape, onion, and garlic, etc., totalling eleven kinds.

The Port Arthur and Dairen Municipal Committee of the Chinese Communist Party has made preparations to promulgate the method on a large scale.

## PREVENTION OF ANIMAL DISEASES IN TIBET

Following is a translation of a news item in Tibet Jihpao,  
Lhasa, 6 October 1960, page 2.

Disease prevention work in various areas in our region has developed from trial points to an all-out operation and has attained great achievements. According to incomplete statistics, the entire region has had 2,394,000 animals treated by disease prevention workers. The prevention work in the six hsien of Lin-chih Special District has been basically completed, while that in the Na-ku and Chiang-tzu Special Districts is about to be finished. Work in the other special districts is in progress.

Animal disease prevention, implemented on such a large scale, is the first to be conducted in our region. Before its beginning, that is, since the winter and the spring, full and thorough preparation of manpower, material power and technical skill were made. The Agriculture and Animal Husbandry Department (Ch'u) of the Tibet Autonomous Region Preparatory Committee has conducted training classes for disease prevention workers. All animal disease prevention workers have been assembled to learn the function and the technique of applying the various types of serums. Then, the various special districts have conducted their own training classes and passed the prevention techniques to the local veterinarians and active elements among the young herdsmen.

Under the difficulties of inadequate staff and heavy duties, the workers of the Lhasa Biological Pharmaceuticals Factory aroused morale and fully supplied the various areas with the different types of serums. In just over serum alone, they have manufactured 1,100,000 milliliters. These workers and the technicians have gone to various places to help the people in manufacturing the serums and conducting experiments.

Just as the all-out prevention campaign was started in our region, the Central Prevention Brigade (Tui) to support Tibet, composed of veterinary cadres from eight sister provinces, arrived to help in the work. The brigade was divided into 10 units, separately going into ten areas and together with a local veterinary cadres, penetrating into the rural areas and the animal farms to perform disease prevention work, which has had a great effect on the rapid promotion of animal disease prevention work.

In the process of promoting prevention work in the various areas, the campaign has received enthusiastic support and welcome from the various levels of Party committees, government agencies and the great mass of herdsmen. The leaders in the various areas regard prevention work as one of the main targets in the animal husbandry industry. They call mass meetings to explain the

important meaning of disease prevention. The great mass of herdsmen have actively sent their animals to prevention stations for prevention inoculations and treatments. They have also received prevention cadres heartily and arranged room and board for them. The masses say, "The Communist Party really understands us. When we have no cattle or sheep, it sends us cattle and sheep; when our animals get sick, it sends veterinary cadres to heal them. We must improve work in production as thanks for the concern of the Party."

The support and welcome given to the prevention work by the Party organizations and the masses have greatly encouraged the veterinary cadres. They have crossed mountains and rivers, braved heavy winds and rain storms, going from door to door, to carry on their work without fear of difficulties. For instance, Kung-lu-tzu-tan and other cadres of the Jih-k'o-tse Veterinary Station, braved a heavy rain storm and went out to work despite their clothes being thoroughly soaked. They worked till late in the evening and completed the administering of injections to 9,000 animals before they would go back to their station for the night.

The veterinary cadres in the K'ang-ma region in Chiang-tzu Hsien, in order to be available to the masses, have increased their prevention work points from 7 to 13 and have fulfilled their tasks 19 days ahead of schedule. When drugs become scarce, the cadres use their heads and have devised methods of using substitutes. For instance, they use 3% "lai-su-erh" [Iysol?] to substitute for alcohol; when serum has run out, they make experiments and try to manufacture the serum themselves. While carrying out prevention work, they also compile native methods of fighting insects, ringworm and cattle disease, and collect specimens of the various types of herbs so as to create a foundation for the better development of future prevention work.



WHAT SHOULD BE DONE IN PRESENT ANIMAL DISEASE  
PREVENTION WORK IN TIBET

Following is a translation of an article by the Agriculture and Animal Husbandry Department of the Tibet Autonomous Region Preparatory Committee, in Tibet Jih-pao, Lhasa, 6 October 1960, page 2.7

In the present mass movement of animal disease prevention work throughout the entire region, after the completion of the first stage of injections against cattle disease, the campaign should advance in to its second-stage -- the all-powerful prevention against insects and lice.

As we know, the cattle and sheep in our region universally have internal and external parasites, such as the lung parasite, stomach parasite, hookworm, liver parasite, flyworm, ringworm and lice. These parasites have brought about many kinds of disease and have caused very serious losses to animal husbandry production. These parasites not only suck animal blood but also spread the disease to other animals. The external parasites generally suck the animal's blood, causing itching which gives the animal endless unrest or may bore into the skin and cause the losing of hair and may even cause death (as ringworms).

The internal parasites suck the animal's blood in its body. They may secrete a poisonous substance to injure the digestive system, hampering the function of digestion and even endangering the life of the animal itself. Most of the diseases caused by the parasites are chronic in nature, very hard to detect, and when they are discovered, are often overlooked by the people. Consequently, the destruction of worms and lice constitute an important activity for the raising of animals during the winter and spring seasons.

Based on the weather characteristics on the plains of Tibet, now is the best time for the launching of a campaign against these parasites. It is an important act to guarantee safety for the animals to pass the winter season and to keep them fat and strong.

The prevention of internal and external parasites may be done in accordance with the needs of the locality, but, generally, attention must be given to the following several facts:

1. Careful selection of pastures. In low-lands and swamps, water must be drained so that the parasites cannot live; animals should not be pastured in such areas. For instance, the pastures in Tang-hsiung Hsien have "tan-pa" swamps, where there are many parasite eggs, larva and snails, which may be eaten by the cattle or sheep when feeding and thus contact diseases.

Another thing, do not allow the animals to lie on damp places.

2. Pay attention to the sanitary conditions surrounding cattle pens and sheep-folds. There should be a plan to organize the masses for the elimination of harmful elements.

3. After wool has been sheared, flocks should be bathed with a medical solution (native herbs are just as good). With cattle and some sheep, just rub them with herbs, and it will be sufficient to eliminate the worms and lice. Regularly used is lime solution (lime 3 chin, camphur 5 chin. Add some water to the lime so that it becomes a powder, then mix it with camphur and add more water till the mixture becomes a paste. Boil it till it becomes a brown liquid. Let it settle and filter it, discarding the sediment. Add more water until the solution reaches 200 chin when it is ready for use.) The 666 liquid solution (take 5 grams of moistened 6% 666 powder, 1 gram "lai-seu-erh" /Lysol?/ 100 grams of warm water, mix into a liquid solution and apply it to the affected areas). DDT paste (1 gram of 5% DDT powder, 20 grams vaseline and mix into a paste. Every 7 or 8 days, rub the affected areas with the medicine.) If medicated baths and rubbing of drugs are well done, it is a better and more convenient way to destroy the worms and lice.

4. Make periodic investigations of cattle and sheep manure. If worm eggs are discovered, the cattle and sheep must be treated at once.

In the mass movement to destroy worms and lice, the various areas must pay attention to the development of native methods and the use of native herbs.

THE COORDINATION OF CHINESE-WESTERN MEDICINE HAS  
ATTAINED GREAT ACHIEVEMENTS

Following is the translation of a news item by Li Fu-ho  
and Chen Sheng-fu, in Tibet Jih-pao, Lhasa, 18 October 1960,  
page 2.7

The Medical Department and the Five Organs Department of the Ch'ang-tu People's Hospital have applied coordinated methods of Chinese and western medical treatment for the rapid curing of chronic diseases and acute throat trouble and have attained excellent results.

Under the guidance of the Party committee, since the beginning of the comprehensive rapid treatment method, the doctors and the nurses in this hospital have greatly shortened treatment time and lessened the patients' pain. For instance, a contagious liver disease has been cured by coordinated treatment, in which acupuncture, cauterization and western medical methods were applied, using a great amount of dextra-hydrochloride for injection and setting ten days as one cycle of treatment. Within ten days, normal functioning of the liver has been attained. A patient is cured after 20 days of treatment and he is able to leave the hospital.

In treating acute throat trouble, one patient, when he was received by the hospital, was in a dangerous state. His breathing was difficult, his throat had a loud vibration, and was swollen. He was nearly suffocated. Under general conditions, his throat would have been operated on in order to save his life. But the doctors here applied Chinese herbs, by spraying a coat of powdered croton-oil bean on the patient's throat, after several hours, the swollen throat became normal. After six days' treatment, he was cured and left the hospital. In treating a bleeding ulcer, the white herb from Yunnan Province or boiled sanguisorba officinalis are used for the patient to drink; he will be cured in one or two days.

At present, the various department of the Ch'ang-tu People's Hospital are applying the comprehensive treatment method, by coordinating the Chinese and western medicines. All the medical workers in this hospital have aroused a high tide to learn Chinese herb treatments.

OPINIONS ON THE PRONUNCIATION OF LATIN ALPHABET CHARACTERS  
IN THE SCIENCES OF MATHEMATICS, PHYSICS, AND CHEMISTRY

[Following is the translation of an article by Wang Shou-kuan, Assistant Research Fellow at the Preparations Office of the Peiping Observatory, in Kuang-ming Jih-pao, Peiping, 9 February 1961, page 3.]

I am in favor of sinolized pronunciation of these characters. In order to explain my reasons, let us look at the various kinds of often-used Latinized signs and symbols.

In the domain of science there are certain "scientific terms" that are either given world-wide recognition or that are used habitually. A portion of these express themselves through the usage of Latin alphabet characters. The use of these characters in textbooks helps in the exchange of scientific experience and in being heirs to a scientific inheritance. It is only under these circumstances that the injection of foreign words in one's own language is justified.

The most commonly used of this class of "scientific terms" are classified as follows: (1) Symbols habitually used in algebra and geometry; for example, "x" as used for an unknown quantity, "x, y, z" to indicate axis, etc.; (2) those used as scientific names; for instance, names of chemical elements, astronomical names of stars, etc.; (3) those used as physical units; for instance, "ampere" and "coulomb" etc.; (4) those used as mathematical or physical symbols; such as "e", "log", "d/dx", "g", etc.

First, all non-Latin alphabet symbols may be read according to the pronunciation in the original language. There does not seem to be any dispute regarding this point; for instance, the oft-used Greek symbols of " $\pi$ " and " $\theta$ " may be read with Greek pronunciation.

How then are we to pronounce Latin alphabet symbols? As to this, we must see how the symbols are to be used. For instance: (1) Those characters which are used as algebraic or geometric symbols can only be considered to be doing a "side" job. For instance, "x, y, and z" used as points on a curve (or as axis) have been used only because they have been used so habitually for a long time, and not because they have any meaning attached to them. Of course, everybody today uses "x, y, and z." If we alone were to use "chia, yi, and ping," it would bring about a certain amount of inconvenience. Since we have also made use of "x, y, and z," whether we actually use the British, French, Dutch, German, Russian, or Spanish way of pronouncing them definitely would not pose any serious question. Therefore, with this class of symbols there is no reason why

we should not use sinolized pronunciation. Problems would arise when our scientists and technicians, in learning a foreign language and in reading professional books, would hesitate with regard to the reading of these symbols. But such a situation would also arise for other pronunciations of these symbols, and would always have to be met by the student of a foreign language, as for instance, for a British student learning French.

(2) Certain scientific terms, such as names of chemical elements, use Latinized initials. The ordinary person, however, might not use the Latinized way of pronunciation. For instance, "Fe" represents iron, but when they pronounce it they simply say "t'ieh." Others use their native language and read it as "F-E." This latter method might be said to be a passible habit, but there is no other reason for it. Suppose a Britisher reads water as "Aich-Two-O," and suppose we were later to use the sinolized pronunciation to say "H<sub>2</sub>O." Both would be the result of "pronouncing according to the characters we see." Under these circumstances, wouldn't it be fair and reasonable to let each do what is convenient for him?

Certain names, such as names of stars, compounds, patent medicines, zoological and botanical terms, if we have determined their original Chinese names or translated names, there would be no problem as to pronunciation. If for some of these terms we decide to use Latin, it would be best to use Latin pronunciation. The last-mentioned situation would only take place for relatively specialized exclusive terms. As to the terms which are used oftener, it is impossible not to have a Chinese term (even if a Latin term were adopted at the same time). In the selection of terms of this kind, we should consider first education and popularization, and second, its professional characteristics.

(3) Many terms for physical units make use of names of scientists. Since these are proper names we should pronounce them accurately. We should use the English pronunciation for British names, German pronunciation for German names, etc. Therefore, we should first transliterate these terms into sinolized pronunciation and then abbreviate or simplify, and when pronouncing them we should still use the entire name. This is basically the same as the method now in use, and will not bring any inconvenience in the future.

(4) Mathematical and physics symbols such as "g, i, log" etc., originally do contain some meaning. But because of widespread usage, nobody associates these meanings with the symbols. So these symbols, such as "x, y, and z" can be read entirely in one's own language. Some, such as "log," "div," and "sin" have corresponding scientific names, and may be read as their corresponding names, such as "logarithm," "divergence," and "sine," etc. As to "d/dx" and such symbols which have the same position as "S," these, by reason, should be read as scientific terms. But for convenience's sake, it might be read as "D-D-X" in one's own language. Since this is but a method for convenience, there is no necessity of using English or any other foreign language.

Finally, Latin alphabet symbols and terms as used by science under the circumstances of having similar characters but different pronunciation,

may and should, except for relatively few which have to be pronounced in Latin, be read with sinolized pronunciation. Using foreign pronunciation not only is not necessary, but it also achieves only a mix-up of reading method. It would bring forth difficulties in education and popularization which cannot be overlooked. Besides, we do not have sufficient reason to prefer English over other languages; whether English, French, German, Italian, Spanish...they are all of the Latin alphabet class and are all written the same way.

## MATHEMATICS RESEARCH INSTITUTE HOLDS SCHOLASTIC REPORT CONCOURSE

[Following are translations of news items in Kuang-ming Jih-pao, Peiping, 8 February 1961, page 2.]

### Review of the Year's Fruits of Research in the Tie-in with Omnifarious Actuality

To summarize the research results for the year of 1960, the Mathematics Research of the Academia Sinica recently held five days of scholastic report sessions.

The year 1960 was one in which signal mathematics was given universal usage. It was a year in which research went thoroughly into the principles of tying in theory with practice. On the one hand, they criticized capitalistic scholastic thinking in casting off the practical and their disregard of actuality. On the other hand, they corrected the tendency of inattentiveness to theoretical research, at the same time getting the scientific workers to get into the midst of practical production. The result is that they are able to increase the creative ability of the working and farming masses, making mathematics work for labor and agricultural productivity and are achieving astounding results.

During the convention, 33 papers and reports were presented. Twelve of these were discussed during that time. A vast majority of these had timely meaning with regard to participation in production.

For instance, the report on "Pondering the Uses of the Study of Traffic Planning in Transportation" was written upon investigation by the research personnel of actual work achievements. This group of researchers went straight to the various departments of transportation facilities, and made use of their knowledge in the dispatch of rolling-stock, cargo space allotment, and the adjustment of loading shifts. They were able to save time and material and place their experiences in actual practice at theoretical heights or to improve certain methods. For example, they theorized on the loading personnel's ways of numbering and tallying, and made limericks out of them in order to make them easier to remember and get wider usage.

The scientific personnel using the material and problems brought up by the various departments were able to get a more practical understanding. Based on the mass of data they produced partial differential equations, which they used to produce initial results with the simpler situations.

Another sample of this is found in the determination of which is

the best cotton for seed purposes. The scientists and the personnel in the appropriate departments jointly prepared for experimentation. They analyzed by making use of mathematics and statistics to determine which cotton had the best spinning capabilities, and thus provided the link for the expansion of the right kind of cotton.

The contents of this year's seminar covered a wider range of subjects than previously. There was a summation of their goals, probings into the theoretical, discussing on direction, work reports, etc. The persons making the reports always tried to go from the simple to the complicated, and were able to be explicit in their explanations regarding assignment, goal, meaning, and the relationship to socialist construction. In this way, they were able to make the subject matter not seem so dry to members who were not of the same profession, and thus allowed these members to bring up suggestions enthusiastically.

#### Cold-Extraction Method of Obtaining Essence of Oranges

The experiments conducted jointly by the Food Industries Research Institute of the Ministry of Light Industries, the Peiping Municipal Food-stuffs Research Institute, and the Peiping Food Products Factory to extract orange essence from orange peels by the cold-extraction method have recently become a success.

Essence of orange is an essence that is often used in the food industry. Previously, by using the steam distillation process to extract this essence from orange peels, it was not easy to retain the carotene contained therein because it was evaporated in the distillation process.

Now that they have succeeded in their tests with cold-extraction, they are able to retain the carotene. It is possible to extract eight to nine chin of essence from 100 chin of orange peels. Each 100 grams of essence contains 11.87 milligrams of carotene.



## EXPLOITATION OF NATURAL RESOURCES TO SERVICE AGRICULTURE

The following is a translation of an article in Kuang-ming Jih-pao, Peiping, 19 February 1961, page 2.

A comprehensive inspection team has been organized of over eighty persons from the research units of Nanking Geography Research Institute, Kiangsu Branch of Academia Sinica, Nanking University, and other relevant units of Soochow Special Office (Shu). Under the direct leadership of Kiangsu Scientific Committees and local Soochow Party committees, the team has explored the resources of T'ai-hu [Great Lake] with total investigation and study so as to fully uncover the benefits derived from the lake resources for the purpose of giving better service to socialist construction.

Having conducted field investigation and laboratory research for more than six months, the team has obtained a large quantity of materials regarding the richest hidden resources of the lake area around T'ai-hu. Initially, they have gained data on the swimming and roving habits of the T'ai-hu special products such as the silver fish, grass fish, mackerel, mullet, silure, etc. This will facilitate the future catching of these fishes. As a further step forward, they will study spawning habits, which will provide additional data.

During inspections, large quantities of marine products have been discovered in the lake and soil from the bottom of the lake is rich in nutrients, which can improve the soil, enhance quality and preserve fertility. All these have great effect on soil conservation. If the lake soil is used to make fertilizer, it will offer several good points: low cost, high fertility, and labor saving. Seaweed contains a high percentage of nitrogen, and if further cultivated, it can become solid nitrogen fertilizer. The exploitation of such rich resources will be of great significance to the development of the national economy which is based upon agriculture.

In addition, the comprehensive inspection team has investigated the locations of all small islands and hidden reefs in the lake. This will be very helpful in determining the course of navigation. As regards the chemistry of the lake water, the lake current, and the cause of the lake formation, they have also proceeded to make initial explorations. Having delved into deep study and inspection, the comprehensive inspection team has drawn up a primary resolution according to the quantity and locations of various resources in the lake area for the reference and study of relevant departments.

Geography Faculty of Shantung Normal College Submits Opinions on Area Demarcation and Inspection Report of Yellow River Delta

The Shantung Normal College geography faculty, composed of over a hundred students and teachers, has carried out a comprehensive inspection of the Yellow River delta under the leadership of the relevant departments of the provincial government. At present, they have issued an inspection report and their opinions on area demarcation with a view to exploiting the natural resources of this immense area.

The resources of the Yellow River delta are very abundant. There are broad and fertile virgin lands, flourishing pastures, willow trees, and hemp that can be used for weaving high-grade material for clothing. However, under the reign of the Kuomintang reactionary party, the vast land of this area has never been explored. But now this area has become a modernized state farm and livestock farm. Irrigation works and tide prevention dikes have been constructed. The former barren wilderness has become fields of wheat and barley. However, because the environmental foundation is still weak, it has been very difficult to carry out systematic inspections. To expedite construction in the exploited area, the faculty has organized this inspection team under the over-all leadership of local Party committees to carry out, in a great measure, field inspection work since October 1960. They have started from Chiaolai River in the southeast to Pan-t'ang river in the northwest. They have gone along the coast of the Gulf of Chili for about eight hundred li, gathering specimens, drawing maps, and collecting soil samples. In other words, they have extensively made investigation and inquiry as well as compiling scientific materials.

After the conclusion of field inspections, they have put in a month's hard work in making conscientious analysis and re-arrangement of materials, compiling an inspection report and opinions on area demarcation of the Yellow River delta. In the inspection report, they have made a complete analysis of the natural geographical conditions of the Yellow River delta, including geomorphology, meteorological and hydrological aspects, soil formation, cultivation conditions and the general economic situation, etc. On the basis of their findings, they have also made recommendations on how to exploit these resources. With respect to area demarcation, they have cooperated with the Shantung Construction Department and the Po-hai Agricultural Reclamation Bureau, drawing up the area demarcation plan for 1960-1964. These are the complete materials for planning the construction of the Po-hai Reclamation Area.

The afore-mentioned work is the combination of teaching and scientific research. In achieving their inspection tasks, both teachers and students have enhanced quality of teaching and working ability, respectively.

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